

## Formation of the Solar System

- single cloud of counter-clockwise rotating gas & dust
- shock wave from a nearby supernova pushed some of the material together so it started to collapse under its own gravitational pull.
- most of the mass coalesced in centre = sun, consisted mostly of hydrogen
- friction between particles created enough heat for nuclear fusion to begin → a star (sun) is born!
- remaining matter settled into a rotating (ccw) disk around sun
- began to condense to form planets which continued to orbit the sun as they formed.
- Planets close to sun, where Temps are high, are made of high T materials that could solidify at those Temps. (Fe, etc); these happen to be the dense elements too.
- uncondensed materials were swept out by the sun's radiating energy (H, He)
- Farther out, T so low that nearly all materials condensed (even methane, ammonia, things that are gases on ⊕) forming the gas giants.